REMARKS

Rejections under 35 USC 102

The Examiner rejected claims 1, 2, 16 and 18 through 20 as being anticipated by US Patent 5,939,139 to Fujimoto (hereinafter the '139 patent). The Examiner also rejected claims 1 through 7, 10, 12 through 18 and 20 as being anticipated by US Patent 5,919,520 to Tateyama et al. (hereinafter the '520 patent).

The independent claims 1, 5, 14, 16 and 20 have been amended to recite, among other things, that the control fluid supply uses a gaseous control fluid to provide a *localized* change in a rate of evaporation of the deposited resist. The claims go on to further recite that a discharge orifice is used to impart the control fluid onto a *localized* portion of the deposited resist. The emphasis on the localized nature of the control fluid impingement is an important feature of the invention, as numerous places in the original specification discuss the value of discrete, targeted application of the gaseous control fluid. A particular example of this is noted at page 8, lines 2 through 13, where the Applicant explains that the localized introduction of airflow at discrete locations on the deposited resist layer can be used to (among other things) compensate for differences in airspeed that inherently exist at the periphery of the spinning wafer relative to its center. Such construction of what it means to be localized within the context of the independent claims is controlled by well-established patent examination practice, where the standard under MPEP 2111 clearly requires not an unmoored "broadest reasonable interpretation" but a broadest reasonable interpretation that is consistent with the specification.

In order for a reference to teach the *localized* discharge of control fluid onto the deposited layer of resist, it must do so such that the fluid discharge is both (generally) discrete and (particularly) able to avoid the aforementioned problem of thickness variations along the radial dimension of the wafer. The system of the '520 patent neither teaches nor suggests a localized impingement of the control fluid in a manner consistent with the original specification. Specifically, column 8, lines 45 through 52 unequivocally states that the air coming out of nozzle **80** is deposited "along the entire length of moveable beam **20**" and that this configuration can

"spout air onto the entire top surface of the wafer". Such a device, with its lengthy discharge configuration, is not capable of the claimed localized performance (as understood by the original specification), as it cannot operate to provide the desirable variation in control fluid control from the center to the periphery of the wafer. For the Examiner to hold that the discharge of control fluid over the entire length of the beam **20** of the '520 patent satisfies the independent claims requirement that such fluid discharge be localized would be to destroy the plain meaning of such requirements, and therefore impermissible under MPEP 2111.

Furthermore, MPEP 2131 states that for a claim to be anticipated, a single reference must disclose each and every positively recited limitation. In other words, a rejection grounded on anticipation is proper only where the subject matter claimed is *identically* disclosed or described in a reference. *In re Arkley*, 172 USPQ 524 (CCPA 1972). Since it is bedrock patent examination practice to consider all words in a claim in judging the patentability of that claim against the prior art (see, e.g., *In re Miller,* 169 USPQ 597, 600 ((CCPA 1971), quoting *In re Wilson,* 165 USPQ 494, 496 (CCPA 1970)), and there is no evidence that the claimed localized nature of the control fluid deposition is found or suggested in the '520 patent, the Applicant respectfully submits that the present rejection can no longer be maintained, and therefore must (in addition to the reason mentioned in the previous paragraph) be withdrawn.

Likewise, the system of the '139 patent does not satisfy the limitations set forth in the independent claims, as it neither teaches nor suggests a *resist* depositing device or method in a manner as set forth in the claims. The '139 patent teaches a device and method for removing a coated insulation film *that has been deposited on top of* a resist layer. In fact, aside from the conventional use of wafer spinning, the '139 patent is silent as to improving the planarization of the resist layer, instead focusing on using a combination of solvent and gas to achieve a separate insulation coating layer removal. Because the '139 patent doesn't even address the same type of layer (focusing on polyimides or the like instead of the radiation-sensitive photoresist discussed in the claims), its use as an anticipatory rejection is no longer available. As such, the Applicant respectfully submits that the present rejection be withdrawn.

Rejections under 35 USC 103

The Examiner rejected claims 3 and 4 as being obvious over the '139 patent in view of the '520 patent. The Examiner rejected claims 8 and 9 as being obvious over the '520 patent in view of US Published Application 2002/0176936 to Matsuyama (hereinafter the '936 publication). The Examiner rejected claim 11 as being obvious over the '520 patent in view of US Patent 7,077,910 to Chappa et al. (hereinafter the '910 patent). The Examiner rejected claims 3 and 4 as being obvious over the '520 patent in view of the '139 patent.

By virtue of the present amendment to the independent claims from which these claims depend, as well as the remarks made above in conjunction with the anticipatory rejections, the Applicant respectfully submits that the present obviousness rejections must also be withdrawn.

One of the requirements to establish a *prima facie* case of obviousness under MPEP 2143 is that all of the claim limitations must be taught or suggested. MPEP 2143.03. As stated above with regard to the anticipatory rejection, there is nothing in any of the references, either singly or in combination, to teach or suggest a substantially solvent-free gaseous control fluid being supplied to a layer of deposited solvent-containing resist coating in a localized manner in order to control a localized rate of evaporation of the resist. For this distinction alone, the Applicant is entitled to have the present rejection withdrawn.

As a secondary matter, the lack of teaching or suggestion in any combination of the cited references about the localized application of a solvent-free control fluid to the deposited resist layer means that even if the combination does encompass all of the claimed limitations (which, as discussed above, it does not), there is a lack of motivation to make such a combination, in derogation of MPEP 2143.01. While it is true that the recent Supreme Court case *KSR International Co. v. Teleflex Inc.*, 550 US 398 (2007) indicated that the test for teaching, suggestion and motivation is but one of numerous rationales needed to establish a *prima facie* case of obviousness, it is still true that there must be some degree of such teaching, suggestion or motivation. In the present case, the only such suggestion comes from the Applicant's disclosure, as nowhere in the combination of the '520 patent, the '139 patent, the '936 publication or the '910

patent does the claimed recitation of depositing a localized solvent-free control fluid on a discrete part of a deposited resist layer. In fact, the only such place where such a teaching occurs is in the claims and original specification of the Applicant's application, and as such, is an inappropriate basis for the present rejection. Accordingly, the Applicant respectfully submits that a *prima facie* case of obviousness for the dependent claims has not been made out, and that the present rejection be withdrawn.

For all of the above reasons, the Applicant respectfully submits that the present rejection has been overcome, and that a finding of allowability by the Examiner as to all of the present claims be issued forthright. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response. Otherwise, early notification of allowable subject matter is respectfully solicited.

Respectfully submitted,

DINSMORE & SHOHL L.L.P.

By /John D. Reed/
John D. Reed
Registration No. 46,506

One Dayton Centre
One South Main Street, Suite 1300
Dayton, Ohio 45402-2023
Telephone: (937) 449-6400
Facsimile: (937) 449-6405
e-mail: john.reed@dinslaw.com

JDR/emg